Population assessment of soft-shell clams (*Mya arenaria*) in Eel River Bar, New Brunswick, from 2010 to 2013.

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by

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ABSTRACT

LeBlanc, A. R., 2015. Population assessment of soft-shell clams (*Mya arenaria*) in Eel River Bar, New Brunswick, from 2010 to 2013. Can. Manuscr. Rep. Fish. Aquat. Sci. 3063: vii + 13 p.

The Eel River Bar First Nation (ERBFN) approached DFO Science in spring 2010 to discuss the potential impact of the proposed decommissioning of the Eel River dam. It was decided that surveys of the clam beds would be carried out before, during and after the removal of the dam. The dam was removed completely in 2011. DFO provided scientific guidance and training to the ERBFN to develop a sampling protocol and assisted in the analysis of samples and data from the surveys. Results showed that the mean densities of clams declined in 2012, followed by an even more dramatic decline in 2013, especially of legal sized (≥ 50 mm) clams. The mean densities of sublegal clams were 65.9 and 65.2 individuals/m² in 2010 and 2011, 52.2 in 2012 and 42.7 in 2013. The mean densities of legal sized clams were 45.5, 45.1, 36.7, and 8.3 individuals/m² in 2010, 2011, 2012 and 2013 respectively. The mean biomass followed the same trend. The mean biomasses of sublegal clams were 0.66, 0.52, 0.39 and 0.17 kg/m² in 2010, 2011, 2012 and 2013, respectively. The mean biomasses of legal sized clams were 1.20, 0.96, 0.80 and 0.16 kg/m² in 2010, 2011, 2012 and 2013. From these results, we can estimate that the total abundance of legal size clams on the surveyed clam beds varied from 7.5 million clams in 2010 to 1.6 million in 2013 and the biomass varied from 200 000 kg to 30 000 kg. The size distribution of clams was similar for the first three years of the survey, whereas in 2013, clams were slightly smaller. Clams were evenly distributed in the surveyed area, which covered the northern part of the gully. There were fewer clams found in the southern part, where fewer samples were taken.

RÉSUMÉ

LeBlanc, A. R., 2015. Population assessment of soft-shell clams (*Mya arenaria*) in Eel River Bar, New Brunswick, from 2010 to 2013. Can. Manuscr. Rep. Fish. Aquat. Sci. 3063: vii + 13 p.

Au printemps 2010, la direction des Sciences du MPO fut approchée par les Premières Nations de Eel River Bar (PNERB) afin de discuter de l'impact potentiel du démantèlement du barrage de la rivière Eel. Le barrage fut complètement démantelé en 2011. On décida donc de faire des évaluations de populations de myes avant et après le démantèlement du barrage. Le MPO a fourni des avis scientifiques et une formation aux PNERB afin de développer un protocole d'échantillonnage et a également prêté son assistance avec l'analyse des données. Les résultats démontrent que les densités moyennes de myes ont diminué en 2012 et encore plus en 2013, surtout au niveau des myes de taille légale (≥ 50 mm). Les densités moyennes de myes sous la taille légale étaient de 65.9 et 65.2 individus/m² en 2010 et 2011, 52.2 en 2012 et 42.7 en 2013. Les densités moyennes de myes de taille légale étaient de 45.5, 45.1, 36.7, et 8.3 individus/m² en 2010, 2011, 2012 et 2013 respectivement. La biomasse moyenne a suivi la même tendance. Les biomasses moyennes de myes sous la taille légale étaient de 0.66, 0.52, 0.39 et 0.17 kg/m² en 2010, 2011, 2012 and 2013, respectivement. Les biomasses moyennes de myes de taille légale étaient de 1.20, 0.96, 0.80 et 0.16 kg/m² en 2010, 2011, 2012 and 2013. À partir de ces résultats, nous pouvons estimer que l'abondance totale de myes de taille légale sur le banc échantillonné a varié de 7.5 milliers de myes à 1.6 milliers et la biomasse totale, de 200 000kg à 30 000 kg. La distribution des tailles était semblable pendant les trois premières années, alors qu'en 2013, les myes étaient plus petites. Les myes étaient distribuées de façon aléatoire dans la portion

échantillonnée de la baie, qui était surtout la partie nord. Il y avait moins de myes dans la portion sud, où seulement quelques sites furent échantillonnés.

INTRODUCTION

In spring 2010, DFO Science was approached by the Eel River Bar First Nation (ERBFN) to discuss the potential impact of the proposed decommissioning of the Eel River dam. Their main concern was the effect of fresh water input and current flow on the soft-shell clam (*Mya arenaria*) population and habitat. Based on these discussions and further consultation with other experts, the ERBFN and DFO carried out a survey of the clam beds before and after the removal of the dam. DFO Science provided scientific guidance and training to the ERBFN to develop a sampling protocol and to assist in the analysis of samples and data from the surveys.

The Town of Dalhousie built the dam in 1963 to provide an industrial water source. A population assessment of soft-shell clams was conducted before (MacPhail 1964a) and shortly after (MacPhail 1964b and Medcof 1967) the installation of the dam, as well as in 1978 (Robert 1979) and 1984 (Bacon 1984). In 1964, clam stocks were considerably reduced as was the clam producing area (Figure 1, Appendix 1. , MacPhail 1964a and 1964b). No salt water flowed upstream of the dam. Consequently, clam populations in that area were destroyed. In 1967, the number of legal sized clams ($\geq$ 50 mm) was reduced even further, however, the total number of clams increased slightly, indicating that sublegal size clams increased in number (Figure 1, Appendix 1. , Medcof 1967). By 1978, clam stocks and the clam producing area had increased again (Figure 1, Appendix 1., Robert 1979). In 1973, a prohibition of clam digging was put in place due to contamination by domestic sewage (Robert 1979), which may, in part, explain the increase in clam stocks. The Eel River gully is still closed to shellfish harvesting. Despite the fishing prohibition, a population decline of almost 70% was observed only 5 years later (Figure 1, Appendix 1., Bacon 1984).

Decommissioning of the dam was executed in 3 steps: 1) planning (2009), 2) a 150-m opening in the north end of the dam was excavated (2010) and 3) the remainder of the dam was removed in 2011. The first survey was carried out in July 2010, a few weeks before the start of the dam removal. Follow-up surveys were done during (June 2011) and after (2012 and 2013) the removal.

METHODOLOGY

LOCATION

Eel River is located on the south shore of the Chaleur Bay, south of the Town of Dalhousie and adjacent to the Eel River Bar First Nation community in the province of New Brunswick (Figure 2). The dam starts at Blueberry Point and runs southward across the river. The area downstream of the dam to the bridge is referred to as the gully. The eastern boundary of the gully is a barrier beach over 1 km long which has a narrow opening to the sea and where highway no.134 passes. The total area of the gully, downstream of the dam, is approximately 36 ha.

FIELD SAMPLING

Sampling was concentrated in the northern half of the gully and done along a system of transects. The first transect was located approximately 800m south of the bridge (N 48.02505; W 066.36889) on highway 134. Transects were run perpendicular to shore (from bank to bank) from this point towards the bridge at intervals of 45 m. Quadrats were taken along these transects

at every 30 m. A 50 cm x 50 cm (0.25 m^2) quadrat was placed on the surface of the sediment and dug with a round shovel to a depth of about 30 cm. All clams were removed by hand and placed in a labeled bag for later analyses.

DATA ANALYSIS

The anterior-posterior length and weight of each clam was measured to the nearest millimeter and gram, respectively, and counted. These numbers were used to determine the mean number and weight of clams (total and legal size ($\geq$50 mm)) per m^2 and to determine the size class distribution of the clam population. The total number and weight of clams on the bed were estimated by multiplying the mean number or weight per m^2 by the total area covered by the surveys. Confidence intervals were calculated as described in Gillepsie and Kronlund (1999).

RESULTS

DENSITY AND TOTAL ABUNDANCE

The area of clam beds covered by the surveys varied between 16.6 and 21.8 ha (Table 1). The total numbers of clams found in the first three years of surveys were similar; however there were fewer clams in 2013 (Table 1). The difference between the first three years and 2013 was even more dramatic for legal sized clams. Legal sized ($\geq$ 50 mm) clams made up about 40% of clams collected in the first three years and only 16% in 2013.

Table 1. Areas surveyed (m^2), number of transects (n) and of samples (m), total numbers and biomass and percent of soft-shell clams of sublegal (< 50mm) and legal ($\geq$50 mm) sizes collected in the Eel River gully between 2010 and 2013.

	2010	2011	2012	2013
Area surveyed (m^2)	166 000	180 100	218 100	190 300
Transects (n)	15	17	25	18
Quadrats (m)	120	133	142	142
Total number (sublegal)	1977	2186	1855	1515
Total number (legal)	1364	1510	1302	296
% legal size number	40.8	40.8	41.2	16.3
Total biomass (kg sublegal)	19.88	17.50	13.98	5.98
Total biomass (kg legal)	36.14	32.19	28.60	5.57
% legal size biomass	64.5	64.8	67.2	48.2

The mean density of sublegal sized clams as well as legal sized clams is similar in 2010 and 2011 and decreases slightly in 2012 (Table 2). In 2013, the mean density decreases further, especially in legal sized clams. The mean densities of sublegal clams were 65.9 and 65.2 individuals/m^2 in 2010 and 2011, 52.2 in 2012 and 42.7 in 2013. The mean densities of legal sized clams were 45.5, 45.1, 36.7, and 8.3 individuals/m^2 in 2010, 2011, 2012 and 2013, respectively.

The total estimated abundances of sublegal clams are 10.9×10^6, 11.8×10^6, 11.4×10^6 and 8.1×10^6 individuals in the areas surveyed in 2010, 2011, 2012 and 2013, respectively. The

estimated abundances of legal sized clams were 7.5×10^6, 8.1×10^6, 8.0×10^6 and 1.6×10^6 individuals for 2010, 2011, 2012 and 2013, respectively.

Table 2. Mean density (#/m^2) and total estimated abundance of soft-shell clams in the Eel River gully between 2010 and 2013.

Year	Sublegal density (#/m^2)	SE	Legal density (#/m^2)	SE	Total sublegal abundance (x 10^6)	95% CI (x 10^6)	Total legal abundance (x 10^6)	95% CI (x 10^6)
2010	65.9	5.7	45.5	3.6	10.9	(9.0, 12.8)	7.5	(6.3, 8.7)
2011	65.2	6.7	45.1	5.3	11.8	(9.4, 14.2)	8.1	(6.2, 10.0)
2012	52.2	5.1	36.7	4.3	11.4	(9.2, 13.6)	8.0	(6.1, 9.9)
2013	42.7	5.2	8.3	1.4	8.1	(6.2, 10.0)	1.6	(1.1, 2.1)

MEAN AND TOTAL BIOMASS

The total biomass of sublegal and legal sized clams collected diminished slightly in the first three years, followed by a dramatic decrease in 2013 (Table 1). Legal sized clams contributed between 65 and 67% of the total biomass in the first 3 years of surveys and only 48% in 2013.

The mean biomasses (Table 3) of sublegal clams decreased slightly in the first three years (0.66, 0.52 and 0.39 kg/m^2 in 2010, 2011 and 2012, respectively). Again in 2013, mean biomass was much lower than previously (0.17 kg/m^2). There was a similar trend in the mean biomass of legal sized clams (1.20, 0.96, 0.80 and 0.16 kg/m^2 in 2010, 2011, 2012 and 2013).

The total estimated biomass of sublegal clams for the surveyed areas was 11×10^4, 9.4×10^4, 8.6×10^4 and 3.2×10^4 kg for 2010, 2011, 2012 and 2013, respectively. The total estimated biomass of legal sized clams in order of increasing year was 20.0×10^4, 17.3×10^4, 17.6×10^4 and 3.0×10^4 kg.

Table 3. Mean biomass (kg/m^2) and total estimated biomass of soft-shell clams in the Eel River gully between 2010 and 2013.

Year	Sublegal mean biomass (kg/m^2)	SE	Legal mean biomass (kg/m^2)	SE	Total sublegal biomass (x 10^4 kg)	95% CI (x 10^4 kg)	Total legal biomass (x 10^4 kg)	95% CI (x 10^4 kg)
2010	0.66	0.06	1.20	0.10	11.0	(9.0, 13.0)	20.0	(16.6, 23.4)
2011	0.52	0.06	0.96	0.12	9.4	(7.2, 11.6)	17.3	(12.8, 21.8)
2012	0.39	0.07	0.80	0.10	8.6	(5.4, 11.8)	17.6	(13.2, 21.9)
2013	0.17	0.02	0.16	0.03	3.2	(2.4, 4.0)	3.0	(1.9, 4.1)

POPULATION SIZE DISTRIBUTION

The size distributions of clams were fairly similar for all years (Figure 3). The mode in 2010 was the 50-55 mm category; in 2011, 45-50 mm; in 2012, 50-55 mm; and in 2013, the 35-45 mm categories. The mean lengths of clams were similar for the first three years and slightly lower in 2013 (46.0, 45.1, 45.8 and 34.4 mm for 2010, 2011, 2012 and 2013, respectively). The median lengths were similar to the means (47.4, 46.8, 46.1 and 35.3 mm), indicating that the

sizes of clams were distributed fairly symmetrically around the mean. The frequency of the smaller clams may be underestimated because the samples of sediment were not sieved, making the smaller clams less visible and harder to pick out manually. In subsequent surveys, the sediments should be sieved to ensure that all clams are collected.

DISTRIBUTION

In 2010, the clam population was distributed in the middle of the gully (Figure 4). Over the years, the distribution became more and more patchy but was still concentrated in the middle part (Figure 5-Figure 7). In 2012 and 2013, the survey was extended to the southern part of the gully. Few clams were found in this area. The legal sized clams were less patchy than the smaller clams. Except in 2013, the densities of legal sized clams were similar in every sample.

DISCUSSION

Medcof (1967) describes very well the changes that occurred in Eel River after the dam was built. Within four years, changes were already apparent and he concluded that the clam habitat was degraded. Essentially, the dam shortened the estuary and consequently the tidal behaviour. The ebb and flood phases of the tidal cycle were shortened while the slack phases were lengthened. As a result, there was an increase of sedimentation in the gully.

By 1978, the habitat suitable for eelgrass had increased in area, and marsh grass (*Spartina alterniflora*) was encroaching on all shores except next to the highway (Robert 1979). The three gravel bars near the outlet of the cove were still present. In 2010, before the dam was decommissioned, the cove still appeared as described by Robert in 1979.

In 2010 and 2011, biomass and abundance of all clams and legal size clams did not change. In addition, abundances were similar to the ones in 1983.But not that the legal size reported in Bacon 1984 was ≥40 mm. The small differences in the numbers of small clams could be attributed to the fact that we did not sieve samples. Small clams are less visible therefore less likely to be hand-picked from samples. In 2012, which happens to be the first year without the dam, abundance and biomass were smaller and in 2013, they declined dramatically, especially for clams greater than 50 mm.

Causes of the decline of the population other than the removal of the dam cannot be ruled out because no other factors were monitored. However, removing the dam certainly brought changes to the habitat such as modifying the water flow, length of tides and sedimentation rates, to name a few. Just like the construction of the dam created many changes in the first few years, removing it is likely to have similar effects, with rapid and dramatic changes at first, followed by a natural rate of change. It is important to note that the survey in 2012 and 2013 were extended to the southern part of the gully where there has always been less clams.

It will likely take a few more years before any measurable effects of the dam removal can be determined. The next population survey in Eel River is planned for 2016. It will be interesting to see how the clam population has adjusted to the changes that are likely to occur in the gully.

BIBLIOGRAPHY

Bacon G., 1984. Population assessment of soft-shell clam (*Mya arenaria*) resource of the Eel River Bar Indian Reserve clam beds, Restigouche County, New Brunswick. Report AS/84/27. Prepared for Fisheries and Oceans Canada. 24 p.

Gillespie, G.E. and A.R. Kronlund. 1999. A manual for intertidal clam surveys. Can.Tech. Rep. Fish. Aquat. Sci. 2270:144 p.

MacPhail, J.S., 1964a. Survey of Eel River Cove, N.B., Soft-shell clam (*Mya arenaria*) population. Fish. Res. Board of Can. Man. Rep. Ser., No. 763, 11 p.

MacPhail, J.S., 1964b. Second survey of Eel River Cove, N.B., Soft-shell clam (*Mya arenaria*) population. Fish. Res. Board Can. Man. Rep. Ser., No. 793, 8 p.

Medcof, J.C., 1967. Third survey of Eel River Cove, N.B., soft-shell clam (*Mya arenaria*) population. Fish. Res. Board Can. Man. Rep. Ser., No. 941, 78 p.

Robert, G., 1979. Fourth survey of Eel River Cove, N.B., soft-shell clam (*Mya arenaria*) population. Fisheries and Marine Service, Manuscript Report Series, No. 1491, 20 p.

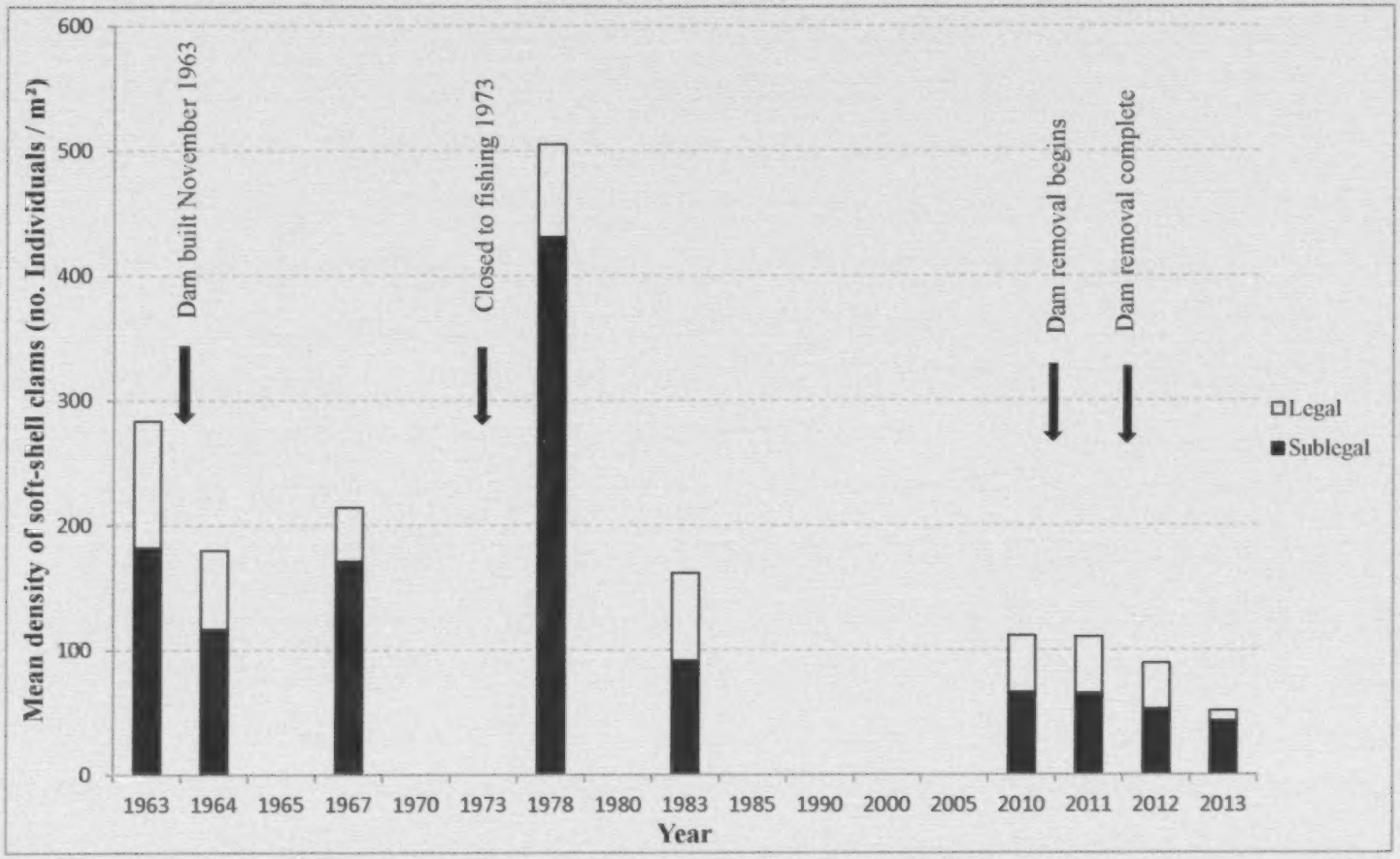

Figure 1. Mean densities of sublegal (< 50mm; black) and legal (≥ 50 mm; white) soft-shell clams in the Eel River gully in 1963, 1964, 1978, 1983 and the current assessments. The values prior to 1983 are the individuals/ft² presented in the original reports divided by 0.092903 to obtain the individuals/m². In 1983, the legal size clams are SL ≥40 mm (Bacon 1984).

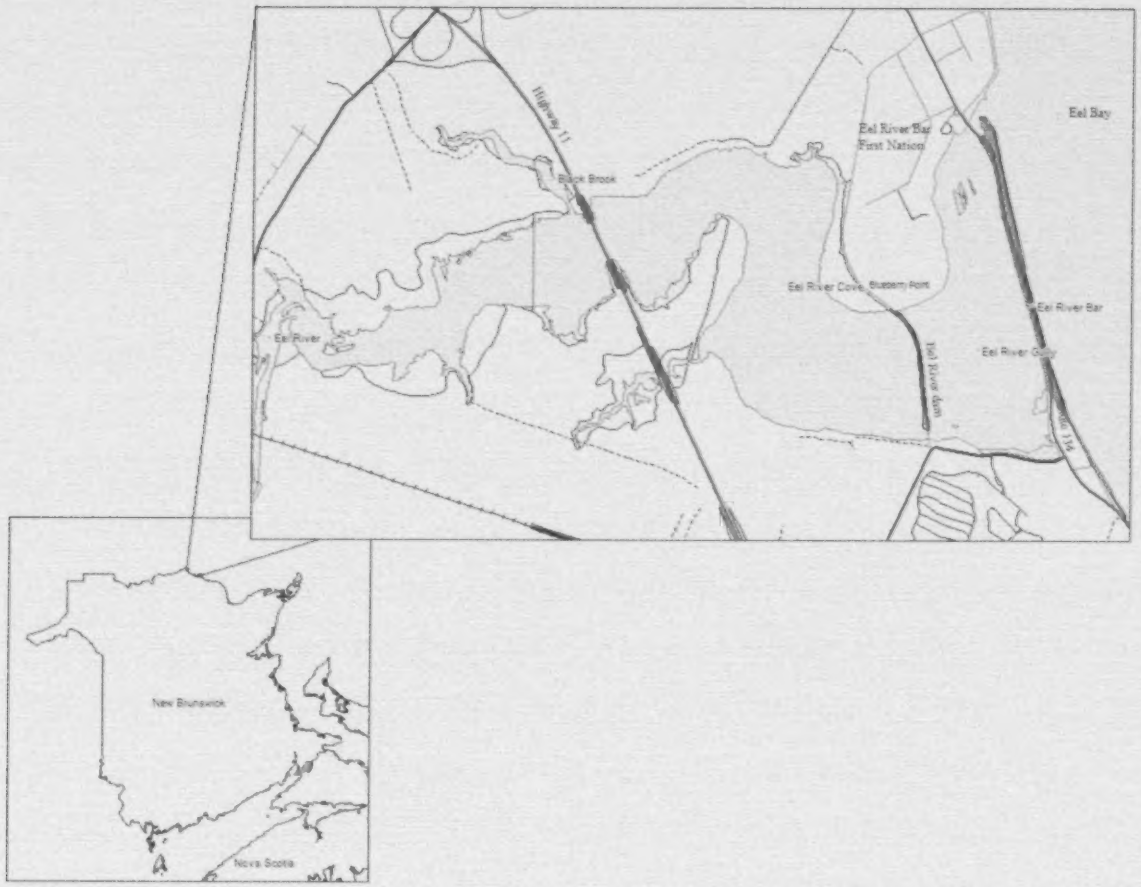

Figure 2. Map of Eel River, New Brunswick before the dam removal.

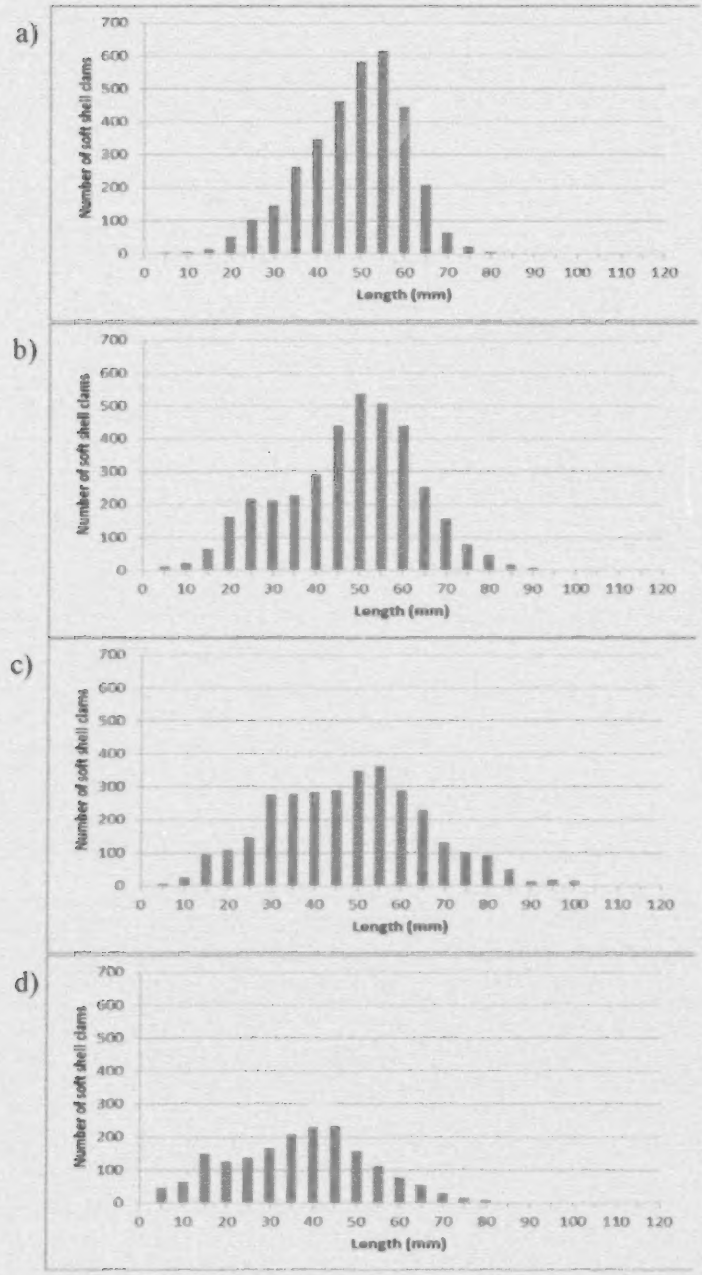

Figure 3. Size distribution of soft shell clams collected in the Eel River gully, NB in a) 2010, b) 2011, c) 2012 and d) 2013.

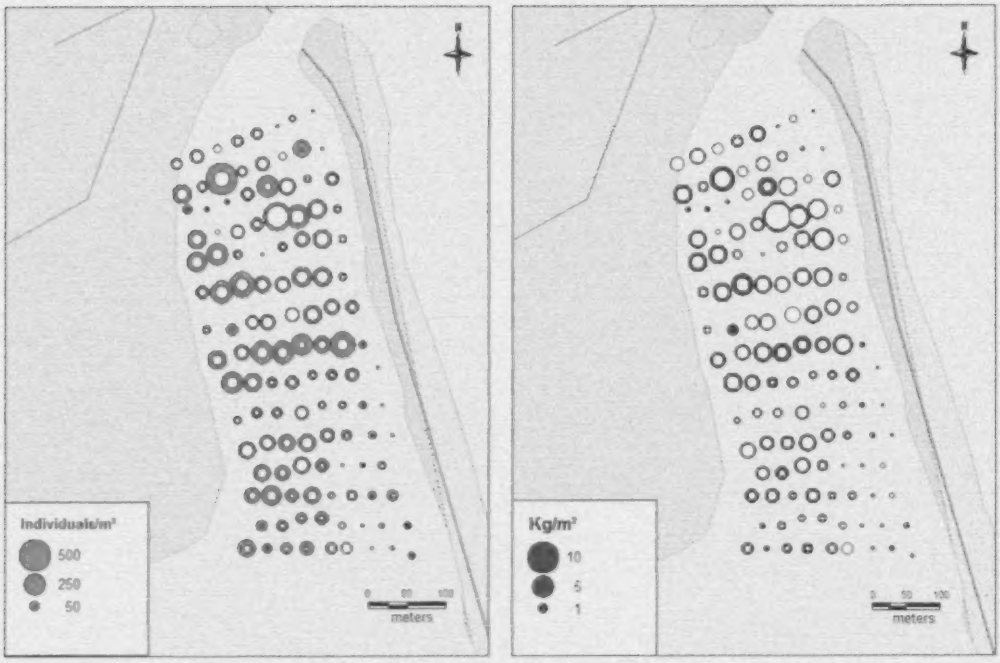

Figure 4. Distribution of soft shell clams in the Eel River gully, NB in 2010. The colored dots are the number of individuals (red) or kg (blue)/m^2 and the white dots are the number or kg of legal sized clams/m^2.

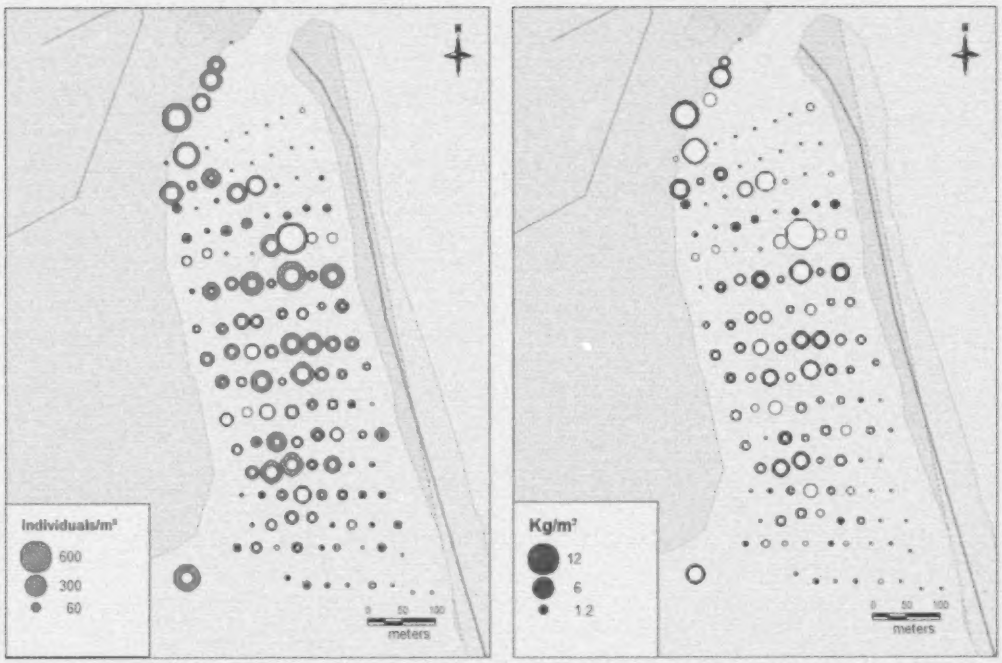

Figure 5. Distribution of soft shell clams in the Eel River gully, NB in 2011. The colored dots are the number of individuals (red) or kg (blue)/m^2 and the white dots are the number or kg of legal sized clams/m^2.

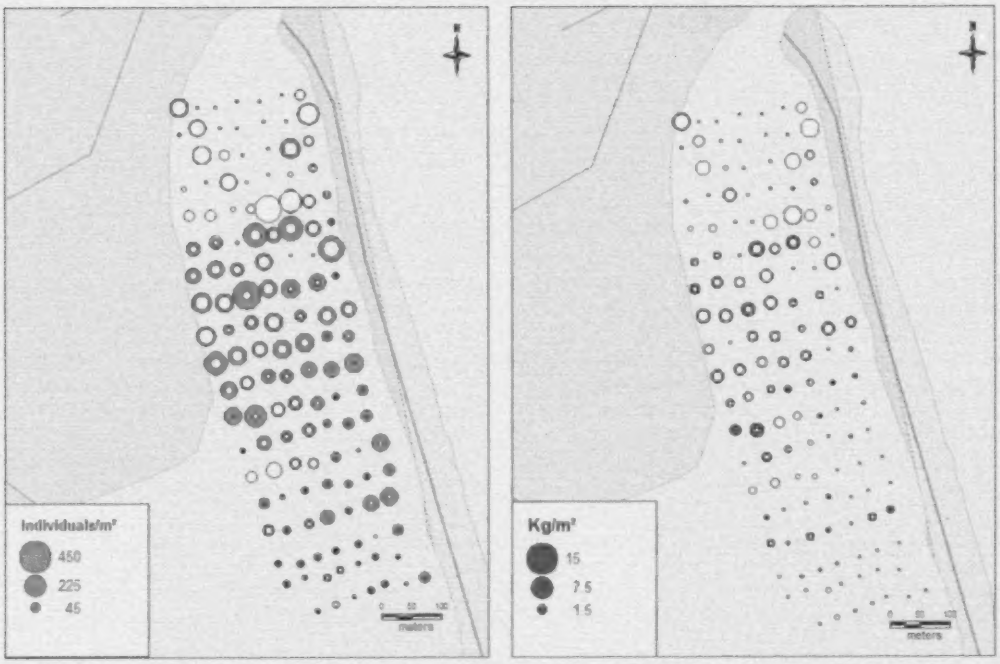

Figure 6. Distribution of soft shell clams in the Eel River gully, NB in 2012. The colored dots are the number of individuals (red) or kg (blue)/m^2 and the white dots are the number or kg of legal sized clams/m^2.

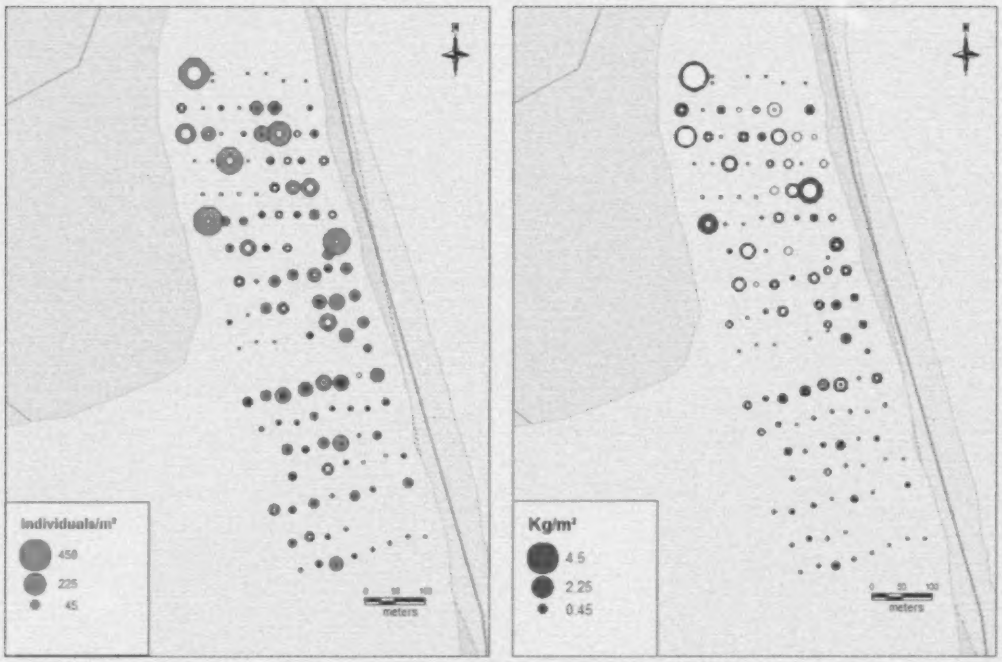

Figure 7. Distribution of soft shell clams in the Eel River gully, NB in 2013. The colored dots are the number of individuals (red) or kg (blue)/m^2 and the white dots are the number or kg of legal sized clams/m^2.

APPENDIX 1.

Mean soft-shell clam densities (individuals/m²) in the Eel River gully in 1963, 1964, 1967, 1978, 1983 and the current assessment. The values prior to 1983 are the individuals/ft² presented in the original reports divided by 0.092903 to obtain the individuals/m². In 1983, the legal size clams are SL ≥40 mm (Bacon 1984).

Length (mm)	1963	1964	1967	1978	1983	2010	2011	2012	2013
10-15	9.2	7.5	63.4	35.5		0.5	2.0	2.7	4.2
15-20	14.9	7.0	14.3	29.1		1.8	4.9	3.1	3.6
20-25	16.5	10.4	14.8	60.3		3.4	6.5	4.1	3.8
25-30	14.7	14.9	14.3			4.9	6.4	7.8	4.6
30-35	18.9	16.3	10.8	89.3		8.8	6.8	7.8	5.8
35-40	23.8	15.4	13.4	119.5		11.5	8.8	7.9	6.5
40-45	23.9	21.2	19.5	98.0		15.3	13.2	8.1	6.5
45-50	29.0	24.0	20.6			19.4	16.2	9.8	4.5
50-55	34.3	27.6	20.1	44.1		20.5	15.3	10.3	3.2
55-60	26.0	18.0	13.2	17.2		14.9	13.2	8.2	2.2
60-65	18.1	7.2	6.6	9.7		7.0	7.6	6.4	1.5
65-70	15.1	10.0	3.5	2.2		2.1	4.7	3.7	0.8
70-75						0.8	2.3	2.8	0.4
75-80						0.2	1.4	2.6	0.2
80-85				1.1		0.0	0.5	1.4	0.0
85+						0	0.3	1.4	0.03
Legal (≥ 50 mm)	93.5	62.8	43.5	74.3	70.0	45.5	45.1	36.7	8.3
All	244.3	179.5	214.5	505.9	161.5	111.4	110.3	88.9	51.0
% legal	38.3	35.0	20.3	14.7	43.3	40.8	40.8	41.2	16.3